U.S. ENVIRONMENTAL PROTECTION AGENCY

# Waste Site Cleanup & Reuse in New England

Serving Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont & 9 Tribal Nations



EPA NE Home
A-Z Index
Cleanup Home

Superfund Home
Brownfields Home
Corrective Action Home
Other Cleanups Home
Find New England Sites

**Site Type: Long Term/National Priorities List (NPL)**

## RAYMARK INDUSTRIES

### Stratford, Connecticut

Fairfield County
*Street Address:* 75 EAST MAIN STREET
*Zip Code:* 06497
*Congressional District(s):* 03
*EPA ID #:* CTD001186618
*Site ID #:* 0100094
*Site Aliases:*

Map this site in Cleanups in My Community

**Site Responsibility:** Federal, State

| NPL LISTING HISTORY | |
|---|---|
| **Proposed Date** | 01/18/1994 |
| **Final Date** | 04/25/1995 |

## Site Description

[Back to Top]

Raymark Industries, Inc. (Raymark) was a manufacturer of automotive brakes, clutch parts, and other friction components, primarily for the automotive industry. Raymark and its predecessors were located on a 34-acre parcel at 75 East Main Street in Stratford, CT. Raymark operated at this location from 1919 until 1989 when operations ceased. Raymark's manufacturing waste was historically disposed of as fill on the facility, but over time this waste material was also disposed of within Stratford at a minimum of 46 residential properties, and at numerous other commercial, recreational and municipal properties. In addition, several wetland areas in close proximity to the Housatonic River were also filled in with Raymark's manufacturing waste. The contaminants in Raymark's waste primarily consisted of polychlorinated biphenyls (PCBs), asbestos, lead, and copper; however, extensive VOC soil contamination also exists at the former Raymark facility. Extensive testing of soil, groundwater, soil gas, indoor air, and sediments throughout the Stratford community has been conducted by the EPA and Connecticut Department of Environmental Protection (CTDEP). The total population within 4

miles of the site is approximately 145,000. No known public drinking water wells are located within 4 miles of the site; however, a few private water supply wells may exist upgradient of the former East Main Street facility.

Seed oysters are cultivated in the Housatonic River near some of Raymark's historical disposal locations and crabs and clams may also be harvested for recreational purposes in the area. Selby Pond, located adjacent to Ferry Creek and the Housatonic River, has warning signs posted that informs the public that eels from this pond may have high levels of PCBs.

The 34-acre former manufacturing facility at 75 East Main Street has been demolished, capped, and redeveloped into what is now known as the Stratford Crossing Shopping Center - which includes Home Depot, Shoprite, and Walmart.

## Threats and Contaminants

[Back to Top]

Lead, asbestos, and PCBs have been the predominate contaminants found in soils at the former industrial manufacturing facility and at numerous locations in Stratford where Raymark's manufacturing waste was disposed of in the past. Groundwater in the area of the former Raymark facility is also contaminated with heavy metals, semi-VOCs, and VOCs. Ingesting or coming into contact with these contaminants could pose a threat to public health. An advisory was issued by the Agency for Toxic Substances and Disease Registry (ATSDR) based on the concern that people could be exposed to site-related contaminants through inhalation of, direct contact with, or ingestion of, waste present in the soil, and consumption of potentially contaminated seafood. Consumption of contaminated groundwater near the site is not considered a current human health threat as groundwater is not currently used for drinking water purposes.

## Cleanup Approach

[Back to Top]

EPA has been working with various state and federal agencies including the CTDEP and Connecticut Department of Public Health (CTDPH), the ATSDR, the National Oceanic and Atmospheric Administration (NOAA), the Army Corps of Engineers, and others to address the issues found at the Raymark Superfund site.

EPA is also working closely with the Town of Stratford in an effort to find publicly acceptable approaches to address the contaminated areas throughout the town. To this end, EPA has worked with a town formed citizens group, the Raymark Advisory Committee (RAC), since June 2000, and more recently with SaveStratford, a newly formed citizens group. Numerous meetings have occurred

throughout the years in an effort to reach agreement on clean-up approaches of areas contaminated with Raymark waste. Agreement has been reached for 4 of the 24 properties in operable unit 6 (OU6) and EPA has developed a proposed plan for the permanent clean-up of these 4 properties. Temporary measures or "interim actions" will also be proposed for all other locations where potential exposures to Raymark waste could occur. The type of temporary measure necessary will be determined on a property-by-property basis and will remain in place until permanent remedies are implemented.

In addition, an independent redevelopment consultant, Vita Nuova, has been funded by EPA to work with the Town and assist in the planning and redevelopment of various options for the former Raybestos Memorial Field (OU4) (see OU4 under "Response Action Status" below). This area is estimated to contain over 200,000 CY of Raymark waste at depths up to 16 feet . The objective of this effort is to integrate a cleanup approach for this area that will also provide for beneficial reuse for the Town.

## Response Action Status

[Back to Top]

| | |
|---|---|
| Initial Action | During the summer of 1992, the EPA built a temporary cap on a portion of the commercial property known as the Raybestos Memorial Field. The EPA began excavating contaminated waste/soil from 46 residential properties during the fall of 1993. This contaminated material was transported back to the Raymark Industries, Inc. facility where it was capped in place (see Operable Unit 1 discussion below). The residential excavations were completed in the fall of 1995 and property restoration continued into 1996. In addition, throughout 1993 and 1994, Raymark undertook a number of interim actions at its 75 East Main Street facility, including removing thousands of 1 cubic yard bags of asbestos and containers holding hazardous substances, temporarily capping four waste lagoons, and securing the facility. The CTDEP also undertook a number of interim actions on municipal properties between 1993 and 1994, including installing temporary caps and fencing at the Wooster Middle School and a portion of what is known as Short Beach Park. During 1994, the CTDEP also required several commercial property owners to restrict access to known contaminated waste areas through the installation of fences or pavement. In June 1995, the CTDEP excavated contaminated materials at the Wooster Middle School and brought all of this |

material back to the Raymark facility before August 1995 where it was also capped in place.

Operable Unit 1 – Facility

The Raymark Superfund Site is currently divided into nine (9) separate pieces (operable units) in an effort to effectively manage the various investigatory studies that have taken place throughout the site. The facility is referred to as operable unit #1 (OU1).
As a result of environmental investigations conducted by Raymark and the EPA, a remedy for the manufacturing facility (OU1) was documented in a July 1995 Record of Decision (ROD). Shortly thereafter, in September 1995, the cleanup of the Raymark property began with the demolition of 15 acres of buildings and the placement of an impermeable cap over those 15 acres as well as over the remaining +/-20 acres of contamination on the property. Underlying the cap is an extensive plumbing network that removes solvents from the groundwater and gas from the soil. This plumbing network includes 12 vapor extraction wells which pump air contaminated with solvents out of the soil beneath the cap into a treatment building located in the eastern portion of the property, and 5 extraction wells which pump solvents located in pockets in the groundwater into a holding tank located in a treatment building on the western edge of the property. The cap was constructed in a manner that allowed commercial redevelopment of the property while ensuring the continued containment of the underlying contamination. In addition to the demolition and capping work, over 50 monitoring wells were installed in the cap to monitor the quality of the groundwater beneath the property.

All cleanup activities associated with OU1 were completed by EPA (working with the CTDEP and Army Corps of Engineers) by November 1997. The construction of the Stratford Crossing Shopping Center began in the Spring of 2001 and opened for retail business in early 2002.

Currently, the CTDEP provides ongoing operation and maintenance of the soil gas and solvent collection systems, as well as the two treatment facilities.

Operable Unit 2 – The groundwater study of the area, known as

| | |
|---|---|
| Groundwater/Indoor Air | OU2, encompasses approximately 500 acres. A draft remedial investigation (RI) report for OU2 was completed in November 2000 which provided all data collected to date and identified areas where additional investigations were warranted. These additional investigations included the evaluation of indoor air quality of nearby commercial buildings and residential homes, and the installation of additional groundwater and soil gas monitoring wells.<br>**INDOOR AIR:**<br>Since 2000, EPA sampled the groundwater, soil gas, and indoor air in a residential area between Ferry Boulevard and the Housatonic River for chemicals disposed of at the former Raymark Industries facility on East Main Street. These chemicals, called volatile organic compounds or VOCs, are present in the groundwater and can change from a liquid into a gas, migrate upwards, and then enter homes through the foundation. EPA identified several homes where this had occurred and, working with the CTDEP, installed sub-slab ventilation systems in nine homes in this area by January 2003.<br><br>In an effort to ensure protection of public health and also eliminate the continued need for environmental monitoring in this neighborhood, which was both expensive and intrusive, EPA signed a Time-Critical Removal Action Memorandum (dated September 2, 2003) for the installation of sub-slab systems in all of the homes throughout the affected area. A Health Consultation prepared by the CT Department of Public Health (working with the Agency for Toxic Substances and Disease Registry (ATSDR)) supported this action based principally on trichloroethene (TCE) exceedances in the area. The ventilation systems, which are similar to radon systems, draw air from beneath the foundation and vent it through a pipe near the roof of each house.<br><br>By the Fall of 2004, installation of these systems was complete with approximately 100 homes receiving systems (installed by the CTDEP through a cooperative agreement with EPA). Long-term maintenance of the systems will be conducted by the CTDEP at no cost to the homeowners or tenants. |

| | |
|---|---|
| | **GROUNDWATER:**<br>The final RI report was completed in January 2005 which presents all available data, identified groundwater flow directions, and identified risks associated with contaminants found in the groundwater. The findings of this report were that risks to human health were primarily through indoor air pathways which had already been addressed (see above "INDOOR AIR"). Other risks associated with groundwater were found to be insignificant as the groundwater in the area is not used as a drinking water source. |
| Operable Unit 3 – Ferry Creek (Area I - Includes Upper Ferry Creek and Associated Wetlands) | Ferry Creek - Area 1, known as OU3, includes Ferry Creek and the surrounding areas from approximately Interstate 95 (across from Homestead Avenue) southward to Broad Street. It encompasses approximately 33 acres which includes approximately 5 acres of wetlands.<br>A remedial investigation report for OU3 was completed in August 1999. The report concludes that fill and natural soils throughout OU3 are contaminated with asbestos, lead, copper, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and dioxins. In some areas the level of contamination is high. Potential risks to human health, sediment dwelling organisms, and those that are higher up the food chain (that feed on sediment dwelling organisms) are a concern throughout the area.<br><br>Cleanup approaches are currently under consideration. |
| Operable Unit 4 – Raybestos Memorial Field (Ballpark) | The Raybestos Memorial Field (the Ballfield), known as OU4, is located north of the former Raymark facility just over the Metro-North railroad tracks leading to New York City. It encompasses approximately 14 acres. Residential properties border the OU4 study area to the north/northwest. Town, commercial, and industrial properties are located to the northeast. An inactive industrial facility abuts the area to the south/southwest.<br>OU4 was historically used as a gravel pit operation, then as a disposal area for industrial wastes. Contaminants found include asbestos, lead, arsenic, and polychlorinated biphenyls (PCBs).<br><br>In 1992, the EPA installed a security fence |

around the area, installed a temporary soil cover (6 inches minimum thickness), and sampled and removed drummed wastes at the Ballfield. This effort restricted access to the area as well as to the contamination found within the soil.

In 1999, the EPA performed a comprehensive remedial investigation that included test pits, soil borings, monitoring well installation, an electromagnetic (EM) survey, and ground penetrating radar to determine the presence, location, and character of buried wastes. A remedial investigation report was completed in August 1999. The report concludes that fill and natural soils throughout the OU4 study area are contaminated with asbestos, lead, barium, zinc, arsenic, polychlorinated biphenyls (PCBs) and semi-volatile organic compounds (SVOCs). In most cases, the contamination is higher in the subsurface soils than in the surface soils. EPA investigations estimate that over 200,000 CY of Raymark waste at depths up to 16 feet are present. Potential risks are to human health. No ecological risks were identified.

Cleanup approaches are currently under consideration.

Operable Unit 5 – Shore Road

The Shore Road Area, known as OU5, is an approximately 4-acre section of Shore Road, near the Housatonic Boat Club and the former Shakespeare Theater, that borders on the Housatonic River.
Contamination was found in this area in 1993 and, as a temporary measure, the CTDEP covered the area with a plastic fabric barrier and six inches of wood chips. In early 1999, EPA found that the plastic fabric barrier was beginning to wear and that much of the wood chips had eroded. At the request of the town of Stratford, EPA took steps to re-evaluate the risks posed by the contaminants in the area.

These steps included the completion of an Engineering Evaluation/Cost Analysis (EE/CA) report in June 1999 that documented risks to human health and the environment from asbestos and lead. As a result of these findings, EPA released an Action Memorandum in September 1999 and performed an interim removal action that included the installation of a

| | |
|---|---|
| | revetment along the unprotected southeastern tidal areas, restoration of existing riverside revetments to limit exposure to underlying contaminated soils, capping of excavated soils, paving of driven surfaces and capped soils, and installation/restoration of utilities to allow maintenance without the threat of exposure to contaminated soils. These interim removal actions were completed in September 2000.<br><br>Future actions include monitoring of the area to ensure the integrity of the cap installed over contaminated soils, land use restrictions, and the completion of a remedial investigation/feasibility study of the area. |
| Operable Unit 6 – Additional Properties | Additional properties, known as OU6, consists of 24 properties located throughout the Stratford area. These properties, with commercial, recreational, or residential use, were constructed on top of locations where Raymark manufacturing wastes was used to fill low lying areas in town. Each of these properties have been evaluated individually to ensure that unacceptable risks to human health or the environment are not present. A remedial investigation was completed in July 2005. Since the completion of the RI, EPA has worked with the Town of Stratford and citizens groups in an effort to find acceptable clean-up approaches to address the 24 contaminated properties. Agreement has been reached for 4 of the properties and EPA has developed a proposed plan for the permanent clean-up of these 4 properties. A formal decision on the clean-up of these 4 properties is anticipated to be documented in a Record of Decision (ROD) in the Spring of 2011. EPA plans to continue discussions with the Town and citizens to develop acceptable clean-up solutions for the remaining properties. |
| Operable Unit 7 – Ferry Creek (Area II - Includes Lower Ferry Creek, Selby Pond, and the Housatonic River Wetlands) | Ferry Creek - Area 2, known as OU7, includes lower Ferry Creek (from Broad Street to the mouth of Ferry Creek), Selby Pond, and the Housatonic River wetlands (located south and east of Shore Road). It encompasses approximately 44 acres of which approximately 35+ acres are wetlands and/or open water. A remedial investigation report for OU7 was completed in November 2000. The report |

| | |
|---|---|
| | concludes that fill and natural soils throughout OU7 are contaminated with asbestos, metals, pesticides, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and dioxins. In some areas the level of contamination is high. Potential risks to human health, sediment dwelling organisms, and those that are higher up the food chain (that feed on sediment dwelling organisms) are a concern throughout the area. |
| Operable Unit 8 – Ferry Creek (Area III - Includes Wetlands at Beacon Point and Elm Street) | Ferry Creek - Area 3, known as OU8, includes wetlands to the north and south of the Beacon Point boat launch area and wetlands off of Elm Street. It encompasses approximately 14 acres which are wetlands and/or open water.<br>A remedial investigation report for OU8 was completed in November 2000. The report concludes that fill and natural soils throughout OU8 are contaminated with asbestos, metals, pesticides, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and dioxins. In some areas the level of contamination is high. Potential risks to human health, sediment dwelling organisms, and those that are higher up the food chain (that feed on sediment dwelling organisms) are a concern throughout the area. |
| Operable Unit 9 - Short Beach Park & Stratford Landfill | Short Beach Park and the Stratford Landfill combined encompass the area known as OU9. The two areas together were historically used as a single landfill. The Short Beach Park Area is currently a heavily used recreation area for baseball, softball, soccer and golf. The Stratford Landfill closed but still used for leaf disposal. Between 1993 and 1994, the CT DEP installed a temporary cap on a portion of Short Beach Park where Raymark wastes were found to be present. Additional investigations were conducted by EPA in December 2003 through February 2004 with a remedial investigation report completed in July 2005.<br><br>The RI found that there was no immediate risk to workers or recreational users of the park due to the presence of Raymark waste. However, the RI also determined that if the use of the area changed in the future to a residential setting, unacceptable risks would exist because of the presence of Raymark wastes. Because of this, the RI identified the need to develop a permanent remedy for OU9 so that the public |

health is protected in the future.

Cleanup approaches are currently under consideration.

Vapor Mitigation Systems

The following text was taken from letters that the CTDEP sent to each of the residents who received vapor mitigation systems back in 2004:
Dear Resident,

The Connecticut Department of Environmental Protection (CT DEP) or the United States Environmental Protection Agency (US EPA), installed a sub-slab depressurization system to your home several years ago as a part of the Raymark Superfund Project.

Enclosed, please find a label to be attached to your depressurization system. The label provides information for contacting the CT DEP should you have any questions about or problems with, the system. We recommend the enclosed label be attached in a visible location on the plastic pipe located inside of your home.

Also please be advised, I have instructed a representative from Metcalf & Eddy, Inc., a contractor to the CT DEP, to perform a routine inspection of the portion of the system located on the exterior of your home or building during this upcoming summer. The representative will provide identification upon request.

## Environmental Progress

[Back to Top]

The EPA, working cooperatively with the CTDEP and the Town of Stratford, has taken extensive immediate actions to protect public health by excavating wastes from residential areas, installing interim caps over contaminated wastes, fencing and capping municipal properties, and restricting access to commercial properties. The CTDEP has also excavated contaminated materials from the Wooster Middle School and brought all of the material back to the Raymark facility where it was capped in place. Construction of the selected remedy for the Raymark Industries, Inc. property (OU1) was finished in November 1997. An interim measure to secure contamination at Shore Road (OU5) was completed in September 2000. EPA and CTDEP also completed the installation of numerous (over 100) sub-slab ventilation systems in homes from 2003-2004 in an area located above the groundwater plume originating from the

former Raymark facility.

## Current Site Status

[Back to Top]

Following EPA cleanup activities in November 1997 at the Raymark facility located at 75 East Main Street, the property was successfully sold at auction in January, 2000. The construction of the Stratford Crossing Shopping Center began in the Spring of 2001 and opened for retail business in early 2002. Remedial Investigation work has also been completed at the majority of the remaining OUs.

EPA is continuing to work very closely with the Town of Stratford and several citizens groups in an effort to find publicly acceptable approaches to address the remaining contaminated areas throughout the town. Numerous meetings have occurred throughout the past 8+ years in an effort to reach agreement on an acceptable, comprehensive clean-up approach. Agreement has been reached for 4 of the 24 properties in operable unit 6 (OU6) and EPA has issued a Proposed Plan (dated September 2010) for the permanent clean-up of these 4 properties. Temporary measures or "interim actions" have also been proposed for all other locations throughout town where potential exposures to Raymark waste could occur. The type of temporary measure necessary will be determined on a property-by-property basis and will remain in place until permanent remedies are agreed upon and implemented.

EPA is also providing funding for an independent redevelopment consultant, Vita Nuova, to work with the Town and assist in the planning and redevelopment of various options for the former Raybestos Memorial Field (OU4). The objective of this effort is to integrate the clean-up of this area and provide a beneficial reuse for the Town.

## Site Photos

[Back to Top]

Index to Photo Gallery

## Links to Other Site Information

[Back to Top]

Disclaimer Instructions about PDF

***Maps and Photos:***

Index to Photos
Operable Unit 1 – Facility
Operable Unit 2 – Groundwater/Indoor Air
Operable Unit 3 – Ferry Creek (Area I - Includes Upper Ferry Creek and Associated Wetlands)
Operable Unit 4 – Raybestos Memorial Field (Ballpark)
Operable Unit 5 – Shore Road
Operable Unit 6 – Additional Properties

Operable Unit 7 – Ferry Creek (Area II - Includes Lower Ferry Creek, Selby Pond, and the Housatonic River Wetlands)
Operable Unit 8 – Ferry Creek (Area III - Includes Wetlands at Beacon Point and Elm Street)
Operable Unit 9 - Short Beach Park & Stratford Landfill

***Newsletters & Press Releases:***
Press Releases about this project
Raymark Site Bulletins since 1995
#44: Investigations Nearing Completion, 2005
Frequently Asked Questions (FAQ) #1, August 2007 (278 KB)
Frequently Asked Questions (FAQ) #2, February 2008 (64 KB)
February 20, 2009 - Letter from EPA Connecticut DEP to Raymark Superfund Team (192 KB)
Proposed Plan, September 1, 2010 (1.02 MB)
Fact Sheet for the Operation and Maintenance of Sub Slab Depressuration (SSD) Systems, January 1, 2011 (39.6 KB)

***Federal Register Notices:***
Final NPL Listing

***Administrative Records:***
Administrative Record (AR) Index, Record of Decision (ROD), Operable Unit 01, July 03, 2005
Administrative Record (AR) Index, Record of Decision (ROD) Proposed Plan, Operable Unit 6 Commercial Properties, Partial, September 1, 2010 (356 KB)
Administrative Record (AR) Index, Record of Decision (ROD) Operable Unit 6 - Additional Properties (Partial), July 21, 2011 (330 KB)

***Reports and Studies:***
Index of Reports and Studies
Operable Unit 1 – Facility
Operable Unit 2 – Groundwater/Indoor Air
Operable Unit 3 – Ferry Creek (Area I - Includes Upper Ferry Creek and Associated Wetlands)
Operable Unit 4 – Raybestos Memorial Field (Ballpark)
Operable Unit 5 – Shore Road
Operable Unit 6 – Additional Properties
Operable Unit 7 – Ferry Creek (Area II - Includes Lower Ferry Creek, Selby Pond, and the Housatonic River Wetlands)
Operable Unit 8 – Ferry Creek (Area III - Includes Wetlands at Beacon Point and Elm Street)
Operable Unit 9 - Short Beach Park & Stratford Landfill

***Decision Documents:***

View Records of Decision (RODS) on-line (EPA HQ)
Record of Decision, July 3, 1995
Action Memorandum Regarding Indoor Air, September 2, 2003 (253KB)
Record of Decision (ROD) for Final Source Control Action at Four Properties within Operable Unit 6 (Additional Properties) and Interim Actions at Other Locations Containing Raymark Waste, July 21, 2011 (5.20 MB)

***Other Links:***

NPL Site Narrative at Listing:
Site Progress Profile
Public Involvement

## Site Repositories

[Back to Top]

Stratford Public Library, Reference Department, 2203 Main Street, Stratford, CT
203-385-4161
OSRR Records and Information Center, 1st Floor, 5 Post Office Square, Suite 100 (HSC), Boston, MA 02109-3912 (617) 918-1440

## Contacts

[Back to Top

| | |
|---|---|
| **EPA Remedial Project Manager:** | **Ronald Jennings** |
| Address: | US Environmental Protection Agency<br>5 Post Office Sq., Suite 100<br>Mail Code OSRR07-1<br>Boston, MA 02109 - 3912 |
| Phone #: | 617-918-1242 |
| E-Mail Address: | jennings.ron@epa.gov |
| **EPA Community Involvement Coordinator:** | **Emily Zimmerman** |
| Address: | US Environmental Protection Agency<br>5 Post Office Sq., Suite 100<br>Mail Code: ORA01-1<br>Boston, MA 02109-3912 |
| Phone #: | 617-918-1037 |
| E-Mail Address: | zimmerman.emily@epa.gov |
| **State Agency Contact:** | **Ron Curran** |
| Address: | 79 Elm Street<br>Hartford, CT 06106-5127 |
| Phone #: | 860-424-3764 |

E-Mail Address: ronald.curran@po.state.ct.us

Serving Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, & 9 Tribal Nations



Last updated on Tuesday, October 22nd, 2013
URL: http://www.epa.gov/region1/superfund/sites/raymark